



## RFL C37.94 Short Haul Fiber Service Unit



Figure 1. RFL 37.94 Fiber Service Unit

The RFL C37.94 Short Haul Fiber Interface allows ANSI compliant teleprotection devices to be interfaced to non-compliant multiplexers, channel banks, or leased digital services.

### Key Benefits / Features

- **Compliant to ANSI C37.94 Fiber Standard**
- **Low cost solution to interface compliant teleprotection equipment to existing non-compliant digital communication equipment.**
- **Wide range power supply (38-150Vdc)**
- **Rugged easy to mount enclosure for flexibility of installation.**
- **Available with five digital interfaces; RS-449, G. 703, V.35, X.21 and E1.**

The RFL C37.94 Short Haul Fiber Interface is designed to interface ANSI DS0 compliant teleprotection devices such as protective relays, protection signaling, status and control, and other devices found in the high voltage substation environment to a multiplexer that does not support the standard. The RFL unit converts the optical signal into an electrical signal that will be accepted by the multiplexer. The digital output to the Fiber Optic Service Unit is connected to the communications equipment by a short electrical cable as shown in Figure-2. The unit is available with RS-449, G.703, V.35, X.21 interfaces and E1 interfaces.

The C37.94 standard defines a point-to-point optical link for synchronous data between a multiplexer and a teleprotection device. This data is typically 64kb/s but the standard provides for speeds up to 768 kb/s or (12 x 64 kb/s). The clocking is generated by the multiplexer and is recovered and reused by the teleprotection. A fixed framing pattern and some variable overhead bits are provided in the frame structure. The data is of alternating polarity to ensure clock edges regardless of the ones density. The gross bit rate is 2.048 Mb/x and the frame complies with G.704 (E1) rules.

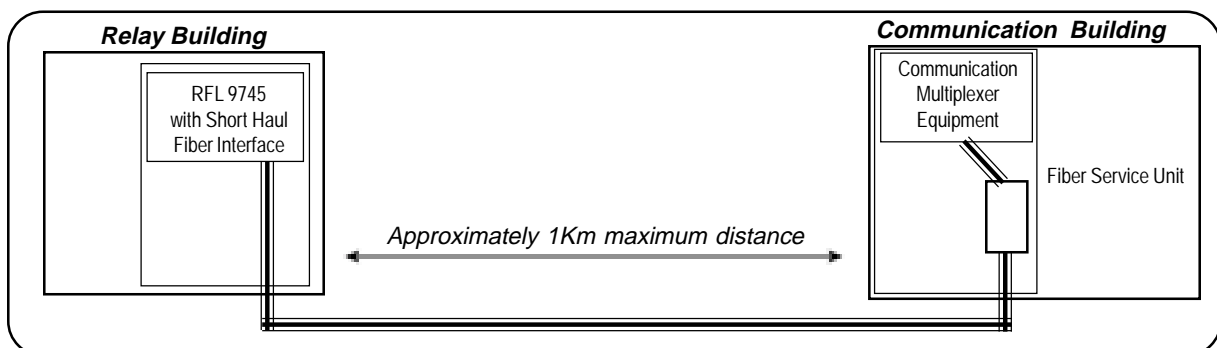


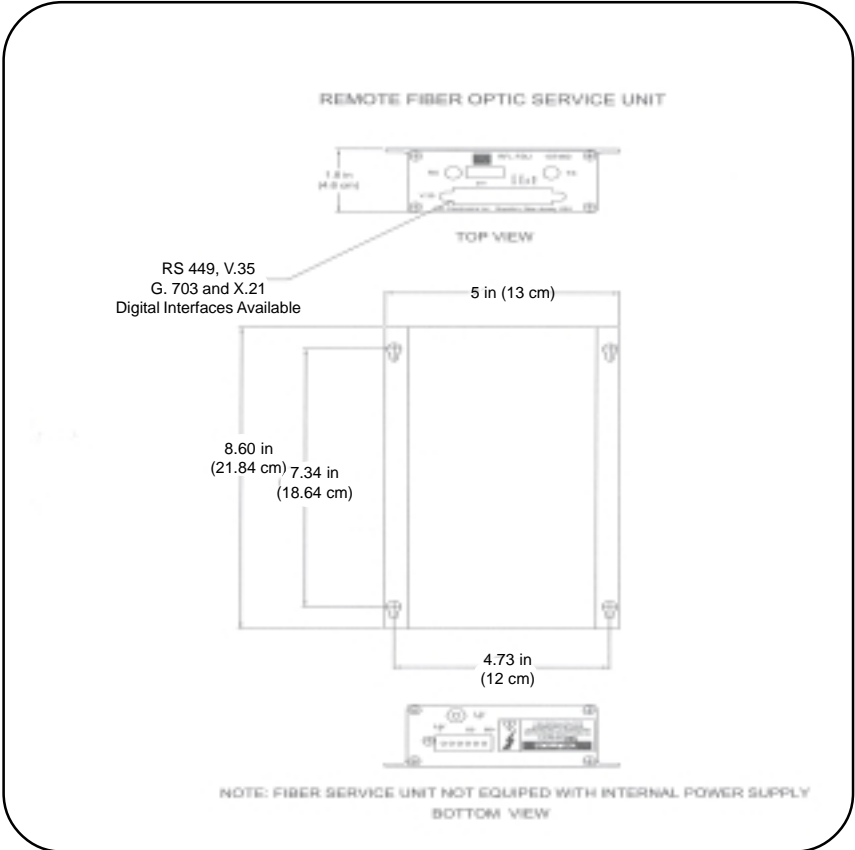
Figure 2. Typical ANSI Compliant Teleprotection device with RFL Fiber Service Unit



Operating Temperature	-30°C to +60°C
Operating Humidity	95% RH Non Condensing @ 40°C
Supply Voltage	38-150Vdc
Power Consumption	Less than 5W
ESD Withstand	C.37.90.3
RFI Withstand	C.37.90.2
SWC Withstand	C.37.90.1
Dielectric Withstand	C.37.90
Regulatory requirements	CD-LVD
MTBF	
Bellcore TR332 Issue 5, Method 1 Case 3, Temp = 25 C	>1,000,000 Hours
Wavelength and Emitter Type	850nm LED (Short Haul)
Fiber Type	50 or 62.5 Micron Multimode
Optical Budget	50 Micron Core: 9db 62.5 Micron Core: 13db
Digital Connectors	RS-449, 64kbps, DB37 Male Connector V.35, 64Kbps, DB15 Male Connector G.703, 64-768 Kbps, DB15 Male Connector E1 120/75OHM Connector and DB-15 Male Connector
Optical Connector Type	ST

## Ordering Information

Description	Part Number
C37.94 FSU RS-449	107460-1
C37.94 FSU V.35	107460-2
C37.94 FSU G.703	107460-3
C37.94 FSU X.21	107460-4
C37.94 FSU E1	107460-5



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